REMARKS

Claims 1 and 3-25 are pending in the application after this amendment cancels claim 2 and adds new claims 24 and 25. Claims 1, 3, 4, 7, 14, 16, 17, and 19 have been amended include the features of dependent claims, to correct typographic errors, to change dependency relationships, and/or to clarify the subject matter recited therein. The amendments and new claims do not add new matter and find support throughout the specification and figures. In particular, the amendments and new claims are supported at least in the Specification at page 9, lines 17-22, page 10, line 13 and lines 19-20 in association with Fig. 1C, and on page 12, lines 4-5. Additionally, claim 7 is amended to change "titanium oxide" to read "aluminum oxide", to correct a typographic error, and which amendment is supported in the Specification at page 16, lines 8-9. It is respectfully submitted that the amendments do not raise new issues, place the claims in condition for allowance, and/or simplify issues for appeal. Therefore, it is respectfully requested that the amendments be entered. In view of the amendments and the following remarks, favorable reconsideration of this case is respectfully requested.

Claims 1, 6, 7, 12, 13, and 14-21 are rejected under 35 U.S.C. 102(e) as being anticipated by United States patent No. 6,908,639 to Basceri et al. (hereinafter referred to as Basceri). Applicants respectfully traverse.

Claim 1 relates to a method for forming a semiconductor device that includes, *inter alia*, depositing a monoatomic film including a metal on a base by using a metal source including a compound containing said metal and no oxygen, and depositing a metal oxide film including oxide of said metal on said monoatomic film by using a CVD technique. The method of amended claim 1 also includes, ***before said monoatomic film depositing step, the step of supplying oxidizing gas onto a surface of said base.***

Basceri apparently discusses an interface forming method comprising the steps of: forming a first capacitor plate with a conductive first layer comprising a first metal; ***chemisorbing on and in contact with the first layer an interface layer comprising at least two monolayers that each have the first metal intermixed with a second metal different from the first metal***; and forming a capacitor dielectric with an insulative second layer comprising the second metal on and in contact with the interface layer and improving adhesion between the first layer and the second layer compared to adhesion otherwise occurring with the second layer formed on and in contact with the first layer in the absence of the interface layer.

The ***three-layered*** structure defined by Basceri's invention is graphically represented below:

LAYER II
CONTAINING
CHEMICAL II

INTERFACE LAYER
CONTAINING
CHEMICAL I INTERMIXED WITH CHEMICAL II

LAYER I
CONTAINING
CHEMICAL I

Basceri's interface layer aiding in adhesion between Layer I and Layer II

In stark contrast, independent claims 1, 14, 17, and 19 teach the deposition of ***a first layer of monoatomic film including metal and a second layer of metal oxide, with NO mention of a third intermediate layer.*** Hence, Applicants respectfully assert that the Basceri's

method does not anticipate or render obvious the methods of independent claims 1, 14, 17 and 19.

The Examiner rejects the argument presented above relating to Basceri disclosing a three-layered structure rather than the two-layered structure recited in the claims. The Examiner states that this argument is unpersuasive because the claims recite comprising language, and additionally a transitional layer would be expected on a molecular level at the interface because of diffusion effects. However, the Examiner's argument concerning the use of the word comprising ignores the explicit claim language that ***the metal oxide is deposited on the monoatomic film***. Basceri simply does not disclose depositing a metal oxide on monoatomic film, as recited in the claim. The use of the word "comprising" in the preamble does allow for additional features, but does not allow the rewriting of an explicit feature of the claim. Since Applicants claim a metal oxide being deposited ***on*** the monoatomic film, the presence of an intervening layer, as apparently disclosed in Basceri, prevents Basceri from anticipating claim 1. Therefore, for at least for the above-mentioned reasons, Applicants respectfully assert that independent claims 1, 14, 17, and 19 are in allowable form, and hereby request allowance thereof.

The above-mentioned arguments with respect to independent claims 1, 14, 17, and 19 substantially apply to dependent claims 3-13, 15, 16, 18, and 20-23 as they inherit all the features of the claim from which they depend. Applicants therefore respectfully request the Examiner to remove the rejections with respect to dependent claims 3-13, 15, 16, 18, and 20-23, and hereby request allowance thereof.

However, in the interest of expediting prosecution, Applicants amend the independent claims to include the feature of canceled claim 2.

Claims 3, 4, 7, and 8 (claim 2 having been canceled) are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 6,458,416 to Derderian et al. (hereinafter referred to as Derderian). Applicants respectfully traverse.

Claim 1 is amended herein to include the features of claim 2. The Examiner admits that Basceri does not disclose the feature of canceled claim 2 of, before said monoatomic film depositing step, the step of supplying oxidizing gas onto a surface of said base. The Examiner asserts that Derderian discloses this feature. The Examiner asserts that the motivation for combining the references is to form better sticking of the layer in Derderian, without defects as taught by Derderian (Office Action; page 5, lines 1-3; citing Derderian; col. 1, lines 14-16). However, there is no indication in the Derderian reference of a need for better sticking, nor is there disclosure in Basceri relating to avoiding defects. Furthermore and more importantly, there is no disclosure or suggestion in either reference as to ***the manner in which the references may be combined.*** As the Federal Circuit held in *In re Kotzab*, there must be "findings as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of [the] invention to make the combination ***in the manner claimed.***" (*In re Kotzab*, 217 F. 3d 1365, 1371 (Fed. Cir. 2000); emphasis added). Since there is no disclosure or suggestion in either of the references as to the manner of the combination, nor any disclosure suggesting the combination, it is respectfully submitted that the combination of the references is a result of improper hindsight reasoning. Therefore, it is respectfully requested that the rejection be withdrawn.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basceri and Dean, and further in view of United States Patent Publication No. 2005/0009335 to Dean et al. (hereinafter referred to as Dean). Applicants respectfully traverse.

The addition of Dean fails to cure the critical deficiency discussed above as regards Basceri and Derderian as applied against claim 1. Therefore, since claim 5 depends from claim 1, claim 5 is therefore allowable for at least the same reasons as claim 1 is allowable.

Claims 10 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basceri and Dean, and further in view of United States Patent No. 6,767,582 to Elers et al. (hereinafter referred to as Elers). Applicants respectfully traverse.

The addition of Elers fails to cure the critical deficiency discussed above as regards Basceri and Derderian as applied against claim 1. Therefore, since claims 10 and 22 depend from claim 1, claims 10 and 22 are therefore allowable for at least the same reasons as claim 1 is allowable.

Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basceri in view of Derderian, and further in view of United States Patent No. 6,858,547 to Metzner (hereinafter referred to as Metzner). Applicants respectfully traverse.

The addition of Metzner fails to cure the critical deficiency discussed above as regards Basceri and Derderian as applied against claim 1. Therefore, since claims 9 and 23 depend from claim 1, claims 9 and 23 are therefore allowable for at least the same reasons as claim 1 is allowable.

New claims 24 and 25 each recite features not disclosed or suggested in any of the prior art references. For instance, claim 24 recites, *inter alia*, forming a bottom electrode having thereon hemi-spherical grains, and forming a silicon nitride film on said bottom electrode by using a rapid thermal nitration technique. Claim 24 also recites forming a top electrode on said capacitor insulator film by providing oxidizing gas to bind oxygen atoms onto a surface of said silicon nitride film, depositing a monoatomic film including a metal, by using an atomic layer

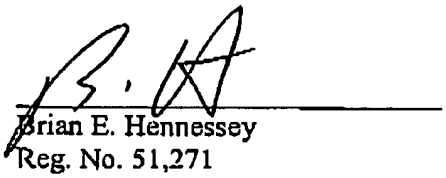
deposition technique using a source gas including said metal, onto said silicon nitride film bound with said oxygen atoms, and forming, subsequent to said depositing step, a metal oxide film including oxide of said metal on said monoatomic film by using a CVD technique. It is respectfully submitted that none of the prior art references disclose or suggest these features, and therefore, for at least these reasons, new claim 24 is allowable.

New claim 25 relates to a method for forming a semiconductor device including, *inter alia*, forming a bottom electrode having thereon hemi-spherical grain and forming a silicon nitride film on said bottom electrode by using a rapid thermal nitration technique. Claim 25 also recites forming a top electrode on said capacitor insulator film, said capacitor insulator film forming step including providing oxidizing gas to bind oxygen atoms onto a surface of said silicon nitride film, depositing a monoatomic film including a metal, by using an atomic layer deposition technique using a source gas including said metal, onto said silicon nitride film bound with said oxygen atoms, oxidizing said monoatomic film to form a metal oxide film including said metal, and depositing another metal oxide film including oxide of said metal onto said metal oxide film by using a CVD technique. It is respectfully submitted that none of the prior art references disclose or suggest these features, and therefore, for at least these reasons, new claim 25 is allowable.

In view of the remarks set forth above, Applicants respectfully submit that the present application is in condition for allowance. However, if for any reason the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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